Factors Influencing the Choice of Place of Child Delivery Among Women in Garissa District, Kenya

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DECLARATION

I declare that "FACTORS INFLUENCING THE CHOICE OF PLACE OF CHILD DELIVERY AMONG WOMEN IN GARISSA DISTRICT, KENYA" is my own work, that it has not been submitted before for any degree or examination in any other University, and that all the sources I have used or quoted have been indicated and acknowledged as complete references.

Alasa Osman Hirsi

SIGNED:

Acknowledgement

I wish to sincerely and humbly register my heartfelt appreciation to the following individuals and groups for their great support and contribution to the successful completion of this work.

List of Abbreviations

AMREF: African Medical Research Foundation

ANC: Antenatal Care

CDC: Center for Disease Control

DHRs: District Health Records

EAMJ: East African Medical Journal

GDDP: Garissa District Development Plan

GoK: Government of Kenya

IMR: Infant Mortality Rate

KDHS: Kenya Demographic Health Survey

KEMRI: Kenya Medical Research Institute

MDGs: Millennium Development Goals

MoH: Ministry of Health

MMR: Maternal Mortality Rate

NEP: North Eastern Province

PHC: Primary Healthcare

PMO: Provincial Medical officer of Health

RVF: Recto-Vaginal Fistula

TBA: Traditional Birth Attendants

UNICEF: United Nations Children's Fund

UNFPA: United Nations Population Fund

VVF: Vesico-Vaginal Fistula

WHO: World Health Organization

Definition of Terms

Maternal Mortality

Death of a woman while pregnant or within 42 days of termination of pregnancy irrespective of the duration and site of pregnancy from any cause related to or aggravated by pregnancy or its management.

Infant Mortality Rate

Number of deaths of infants under one year of age per 100,000 live births in the mid-year population. The Infant Mortality Rate used in this thesis always refers to the annual rate.

Safe Motherhood

Means creating the circumstances within which a woman is enabled to choose whether she becomes pregnant and if she does, ensuring she receives care for prevention and treatment of complications in pregnancy, has access to trained birth assistance, access to Emergency Obstetric Care if she needs it, and care after birth so that she can avoid disability or death from pregnancy and birth.

Traditional Birth Attendant

A woman who has been asked on multiple occasions to assist at deliveries of neighbors or relatives; almost all are illiterate and their knowledge is gained by experience or handed over by their mothers. They are recognized and trusted by the people in the community. There are no male traditional birth attendants in Kenya.

Skilled Birth Attendants

Skilled birth attendant is a trained midwife, nurse, nurse/midwife or doctors who have a set course of study and are registered or legally licensed to practice.

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ABSTRACT

Although the Kenyan government implemented safe motherhood programme two decades ago, available data indicate that prevalence of home delivery is still high among women in Garissa District. The aim of this thesis was to investigate the factors influencing the choice of place of childbirth. **Methodology:** A descriptive cross-sectional study was carried out among 224 women who delivered babies two years prior to December 2010. Using a statcalc program in Epi Info 3.3.2, with expected frequency of home delivery at 83% +5% and a 95% confidence level, the calculated sample size was 215. Furthermore, with a 95% response rate the adjusted minimum sample size was 226. There were two none-responses hence 224 women were interviewed. Stratified sampling was used. Data were collected using pre-tested structured questionnaires and analyzed using SPSS. Descriptive, bivariate and multivariate analysis was performed. A binary logistic regression analysis using the Enter method was performed to determine independent predictors for use or non-use of healthcare services for childbirth. The threshold for statistical significance was set at 0.05. **Results:** The result was presented in text and tables. The study found 67% (n=224) women delivered at home and 33% delivered in hospital. The study found low level of education, poverty, none-attendance of ANC, distance, cost of services, poor quality services, negative attitude towards midwives, experience of previous obstetric complications and decision-making to be significant predictors in home delivery at the bivariate level (p<0.05). The study did not find relationship between age, marital status, religion and place of childbirth (p>0.05). At multivariate level, the following variables were still found to be significant predictors of home delivery: no education OR=8.36 (95% CI; 4.12-17.17), no occupation OR=1.43(95% CI; 1.08–5.49) experience of obstetric complications OR=1.38 (95% CI; 1.15-2.12), none-attendance of antenatal clinic OR=1.11 (95% CI; 1.03–1.51), Rude midwives OR=5.60 (95% CI; 2.66-11.96). **Conclusions:** high prevalence of home delivery was noted due to lack of education, poverty and inaccessible maternity services hence the need to empower women in education and economy to enhance hospital delivery.

CHAPTER ONE: INTRODUCTION

1.1 Background to the study

Motherhood is often a positive and fulfilling experience but for too many women, it is associated with suffering, ill-health and even death (WHO, 2009). In the absence of complications, pregnancy should be a simple and natural process culminating in childbirth and requiring little external intervention. In practice however, due to the unpredictability of birth outcome, skilled attendance at delivery is recommended within easy access to a health facility, to enable appropriate management of complications in case of need (WHO, 2009).

The inclusion of maternal health as one of the key United Nations Millennium Development Goals (MDGs) resulted in Kenya commiting itself to reducing the maternal mortality ratio by three quarters by 2015 (KEMRI/CDC, 2005). The government has formulated policies to ensure women have access to skilled birth attendants at delivery but home delivery and subsequent maternal mortality remain disturbingly high. The national maternal mortality rate for Kenya was 441 deaths per 100,000 live births in 2005 (KEMRI/CDC, 2005) but fluctuations in the trend were observed as the national maternal mortality rate rose to 530 deaths per 100,000 live births in 2008 then dropped to 490 deaths per 100,000 live births in 2009 (USAID, 2009; UNICEF, 2010). In addition, there are variations in maternal mortality across regions; in Busia District of Western Kenya, maternal mortality is estimated to be 680 per 100,000 live births (AMREF, 2011), in Korogocho and Viwandani slum areas in Nairobi the MMR was reported to be 706 maternal deaths per 100,000 live births (Ziraba et al. 2009), and in North Eastern Province of Kenya where Garissa District is located MMR stands at 1000 deaths per 100,000 live births (USAID, 2009; MoH, 2009). The reasons for these variations are mainly attributable to variations in income, education level, availability/accessibility and use of maternity services in the respective regions (GoK, 2009).

In high-income countries, the majorities of women are attended to by a midwife and/or a doctor and receive postnatal care (WHO, 2009). Sixty-six percent of women in Eastern Africa deliver at home (WHO, 2009). Nationally, 56% of Kenyan women and 83% of women from the North Eastern Province (NEP) give birth at home (KDHS, 2009). Reasons for these disparities are known to relate to socio-economic status, availability, accessibility and utilization of emergency obstetric care services. Similarly, studies have shown that preference for female midwife, cultural taboos, poor hospital services and poor attitude towards midwives are a hindrance to use of health facilities for childbirth (KDHS, 2009; Sabine & Campbell, 2009; UNICEF, 2008; Idris et al, 2006; MoH, 2004; WHO, 1997). This study sought to demonstrate to what extent these factors may influence the observed disparity between high level of ANC use and low level of hospital delivery among women in Garissa District.

Kenya is still experiencing the socio-economic effects of the structural adjustment programme imposed in the 1980s. The MDG sector specific progress report on maternal health, 2009 indicates that in addition to factors mentioned in paragraph three above, the introduction of user fee levy also contributed to the current low use of maternity services as women opted for home delivery with the help of traditional birth attendants (TBA). Delivering at home with the TBA gives more flexibility to households to pay within their means in cash, food, non-food items or not at all (Borghi et al. 2008). All urban and rural women receive free ANC but pay $6.50 for delivery; this cost is not static because it varies with the type of other services offered in the health facility. Some of the other services include; women with high risk pregnancies have to lodge in maternal shelters a week prior to delivery and meet their own expenditure. The delivery fee of $6.50 is too high for most Kenyan women because more than 50% of Kenyans live on less than one dollar a day (GoK, 2007). Furthermore, women with low level of education and low income are the main users of government hospitals for delivery. Women who are more educated and economically empowered mainly deliver in private hospitals which are more expensive but have better services (GoK, 2007).

Although the Kenya government introduced a waiver system of health subsidy in 1990 (MOH, 2007) to protect the poor and all pregnant women against user fees, the process of acquiring and processing the waiver card is often tedious thus the alternative available option for women is to give birth at home (GoK, 2009). Furthermore, shortage of personnel due to brain drain; limited government resources due to the global recession and emphasis on focal diseases like HIV and Aids have overshadowed the government's efforts to improve hospital delivery in the last decade.

This study was done at Garissa District in North Eastern Province (NEP) of Kenya. This region poses challenges in implementing quality integrated health service delivery partly due to nomadic nature of the bulk of its population. The District's health infrastructure is either poorly developed or totally lacking; Garissa District has one general referral hospital which offers comprehensive emergency obstetric care services (MoH, 2006). This is below the four basic and one comprehensive emergency obstetric care facilities recommended by UNFPA, (2002). The average distance to a health centre is 50 km while that of a dispensary is 15 km (GoK, 2002-2008) ; this distance to the health facilities may appear too high but it is the bitter reality on the ground. In addition, this distance is far higher than the WHO standard of 5 km (WHO, 1978) which means majority of the women are not in direct contact with health facilities to use for childbirth.

Women in North Eastern Kenya have poor socio-economic characteristics (KDHS, 2009): low level of education (female literacy at 4%), poor economic status (female-headed households at 63%), high level of parity (average children per woman 5), high rate of home delivery (83%) despite high level of antenatal attendance (69.5%), and traditional birth attendant is still the preferred midwife. TBAs in Kenya do not have formal training; they do not work with the professional staff and are selected by the individual woman who is seeking birth assistance at the time of labour. In addition, the TBA is consulted by the pregnant women during antenatal care; in postnatal care she advises women on matters of puerperal nutrition, infection control and infant care. It is within this background that this study sought to understand how these socio-economic, cultural and

health service-related factors influence women's utilization of health facilities for delivery.

1.2 Problem Statement

The Kenya government implemented safe motherhood programme more than two decades ago but maternal mortality in Kenya is still high; 441/100,000 live births (KDHS, 2009). Similarly, Garissa District health indicators are of concern, they are the lowest nationally; MMR in the District is 1000/100,000 live births compared to 441/100,000 nationally, infant mortality rate (IMR) is 63/1000 compared to 52/1000 nationally, maternal and child immunization coverage is 57% compared to 90% nationally (KDHS, 2009; USAID, 2009; MoH, 2009).

Home delivery related morbidity due to anaemia, obstructed labour, obstetric fistula and haemorrhage accounts for the high number of hospital admissions in Garissa District (MoH, 2006). In view of this background, this study sought to assess how these unavailable and inaccessible obstetric services influence women's utilization of health facilities for delivery.

1.3 Purpose of the Study

About 83% of women from North Eastern Province give birth at home (KDHS, 2009). Home deliveries contribute immensely to high rate of infant and maternal mortality, tears (Vesico-Vaginal Fistula, Recto-Vaginal Fistula), sepsis, post-partum haemorrhage and foetal asphyxia (MoH, 2009). The KDHS, 2009 reported higher levels of antenatal use (69.5%) and low levels of hospital delivery (17%) in Garissa District though the report did not specify the number of ANC visits made per woman; hence this research investigated the cause of this disparity. In addition, women's perception of the accessibility, cost and quality of hospital services they received was assessed. The extensive level of gender inequality, maternal age, education, economic coupled with service-related factors associated with choice of place of child delivery was investigated. These together with identification of the existing opportunities for community

involvement in reproductive health will help to address many maternal health challenges in Kenya. It is anticipated that the findings from this study will be used to develop recommendations for interventions aimed at increasing women's utilization of health services for delivery. This will be done by sharing the findings with local and regional health policy - makers, regional development partners like UNICEF and USAID, stakeholders and the District health management teams responsible for implementing primary healthcare programme in the District and lobbying for the implementations of the study recommendations.

1.4 Aim

To investigate the factors that influence choice of place of child delivery among women of child-bearing age (15-49yrs) in Garissa District.

1.5 Objectives

i) To determine the prevalence of home and hospital delivery.

ii) To determine the preferences of ANC attendees of place of childbirth.

iii) To determine whether maternal age, education, occupation/economic and parity related factors are associated with choice of place of child delivery.

iv) To determine whether health-service-related factors are associated with choice of place of child delivery.

v) To determine whether cultural factors associated with choice of place of child delivery.

CHAPTER TWO: LITERATURE REVIEW

2.1 Prevalence of Home and Hospital Delivery

Home delivery is common across communities in the world however; it is associated with high incidence of maternal and perinatal mortality (WHO, 2009). Half a million women die each year from causes related to pregnancy and childbirth; 99% of these are in the developing countries (UNICEF, 2008).

In Europe, more than 90% of women deliver in a health facility with skilled attendants while only 46% of women in Sub - Saharan Africa and 58% women in East, South-East Asia and North Africa have skilled attendants at delivery (UNFPA, 2010). For example in Uganda, less than 40% of deliveries take place in a health facility; TBAs handle 15%, relatives 35% and 12% are unassisted (MoH & Population Council, 2004). Differences for these variations can be attributed to (i) socio-cultural factors, (ii) perceived benefit/need of skilled attendance, (iii) economic accessibility and (iv) physical accessibility (Sabine & Campbell, 2009). In contrast, high income countries have well-established emergency obstetric care facilities and sufficient number of skilled personnel thus enabling women to access skilled attendants at delivery both at home and in hospital (UNFPA, 2010).

Nationally, fifty-Six percent of Kenyan women give birth at home with the help of TBA rather than hospital with variations between urban and rural women; urban women (75%) are twice as likely as rural women (37%) to receive medical assistance during birth (KDHS, 2009). Qualitative studies done in West Java Province, Indonesia revealed that rural women are less privileged to access health services due to poor road conditions that worsen the distance to the health facility, lack of community awareness as majority of rural dwellers are illiterate and overemphasis on the use of TBA services (Titaley, Hunter, Heywood & Dibley, 2010); the situation was found to be similar among Kenyan rural women (KDHS, 2009).

2.2 Maternal Factors Influencing Choice of Place of Child Delivery

2.2.1 Education and economy

Poverty and lack of education among women can limit women's access to health services, decision-making and utilization of economic resource (UNICEF, 2008). In Kenya, 14% of women with no education delivered in hospital compared to 88% of their counterparts (KDHS, 2009). North Eastern Province has the lowest (29%) enrolment of girls in schools nationally compared to 112% girls enrolment in Kenya's Western Province (KDHS, 2009; GTZ, 2011). These findings depict women's information and economic powerlessness hence can limit their ability to use health facility for childbirth. Similar findings have been documented by other researchers using prevalence study designs in Colombo, Uter Pradesh (Sabine et. al 2009). Likewise, women in rural Tanzania have been unable to attend antenatal and postnatal services due to lack of money (Mrisho et al. 2009).

2.2.2 Age and Parity

Literature from rural Saudi Arabia, Nepal and Nigeria revealed that a good proportion of older (≥35 years), multiparous, illiterate and poor women delivered at home while women aged between 25-34 years delivered in hospital (Adamu et al. 2002; Stella & Adesegun 2009). Other studies have found women who were older than 35 years were less likely to use antenatal care (Mathole, Lindmark, Majoko & Ahlberg, 2004). In Kenya 45.5% of the younger women delivered in hospitals compared to 28% of older women > 35 years (KDHS, 2009). The KDHS 2009 reported that nationally, mother's age at birth and parity are inversely related to the likelihood of delivering in a health facility. This study has also ascertained how parity and age affect choice of place for childbirth among women in Grissa District.

2.2.3 Attitude of Women towards Midwives

Research done in peri-urban Cape Town (SA) showed that women's perception of the midwives greatly influenced their choice of birth place. The women's interaction with

midwives was poor (Abrahams, 2001); other studies done in Nepal have reported a similar finding (Furuta & Salway, 2006). Community based surveys done in rural Western Kenya revealed that negative attitude of women towards midwives hindered them from using antenatal and delivery services (Van Eijk et al, 2006); women's negative attitude towards midwives was also reported to be determinant of hospital delivery in NEP of Kenya (USAID, 2009) therefore this study examined attitude of women in Garissa towards midwives and how it affects women's maternity service use.

2.2.4   Pregnancy and birth complications

Two cross-sectional studies done in rural Bangladesh and Kenya found birth complications, parental education and prenatal care were the most important factors determining use of hospital delivery (Adamu et. al. 2002; Van Eijk et al, 2006). The situation was found to be similar with women in NEP of Kenya (UNICEF, 2008).

2.3   Service-related Factors Influencing Choice of Place of Child delivery

A number of service-related factors have been identified as influencing the place of child delivery. These include, inter alia, the travel distance to the healthcare facility, the cost or affordability of healthcare services and the perceived quality of services.

2.3.1   Distance

Distance to the nearest health facility was found to be one of the major determinants of institutionalized delivery in Asia and Tanzania in East Africa. For example in Nepal, people who were close to the roads were more likely to use health services than people who were far away (Bimal et al. 2002) while in Tanzania, women could not access health facilities due to long distance (Mrisho et al. 2009). A cross-sectional study done in 8 selected Kenyan Districts found that most women cited distance as the major reason for not using maternity service (MoH, 2001; KHDS, 2009). Nationally, only 32% of women in Kenya lived within the 5 km of health facility that offers delivery care (UNICEF, 2008; KDHS, 2003); this study assessed the effect of distance on utilization of maternity services among women in Garissa District.

2.3.2 Affordability (cost)

Women's use of maternity service is greatly influenced by their economic status. A prospective cohort study done in India found that 94% of Uter Pradesh women delivered at home because of cost of transport and/or hospital charges for delivery (UNICEF, 2002). Studies done in India, Indonesia, rural Tanzania and Western Kenya have all mentioned cost as a hindrance to health services utilization for antenatal and delivery care (Van Eijk et al, 2006; Babalola & Adesegun 2009; Mrisho et al. 2009; Titaley et al. 2010). Studies done in other three selected Kenyan Districts found that women were apprehensive to go to health facilities even when they have complications, citing lack of money to pay for the cost of delivery services (WHO, 2009; Sabine et al. 2009; Josephine et al. 2008; KEMRI/CDC, 2005). Cost was also found to be a determinant of maternal health services use in Ghana (Overboscha, Nsowah-Nuamahb, Booma & Damnyagb, 2011). This study focused on socio-cultural and economic accessibility variables, variables of perceived benefit/need and physical accessibility to determine whether women in Garissa District share this experience.

2.3.3 Quality of Hospital Care

Shortcomings of health services such as shortage of drugs and inadequately trained personnel have been found to be significant contributing factors to poor quality of hospital services and maternal deaths in many developing countries (WHO, 2009). Similarly, women in Uganda and Kenya's Teso District delivered at home due to poor services at the health facility (Magadi et al. 2001; Van Eijk et al, 2006). Long waiting hours, inadequate qualified staff, dirty hospital environment and lack of basic commodities like drugs and food contribute to poor quality health services (WHO, 2011). This research investigated how quality of hospital service influences choice of place of childbirth among women in Garissa District.

2.4   Cultural Factors

2.4.1   Gender Preference

A cross sectional study done in Syria revealed that 85% (N=500) women preferred to be assisted by female midwives during birth (Bashour & Abdulsalam, 2005). A study done on perspectives of Muslim women experience on maternity service use revealed that lack of sufficient female attendants was a limiting factor to use delivery services in United Kingdom hospitals (Ali, 2004). A community based study on socio-economic and demographic factors affecting use of maternity services in Nyanza Province in Kenya revealed preference for female midwife to be one of the determinants of delivery care use (Owino, 2006). Similarly, Kenyan women from NEP were reported to prefer female midwives (USAID, 2009).

2.4.2   Decision-making

Cross sectional study done in Nepal revealed that few Nepalese women participated in household decision-making regarding their maternity service use for antenatal and delivery care; similarly these women were hardly consulted on decisions regarding the control and use of their own income making them vulnerable at the time of labour and delivery (Furuta & Salway, 2006). A study done in Uganda revealed that 50% of women (n=211) said their husbands decided where they should give birth. Literature regarding decision-making in this patriarchal community in Garissa District is unavailable hence this study explored if women in this District share the same experience.

2.4.3   Availability and Cultural Value of Traditional Birth Attendant Services

The TBA supports women during labour and childbirth but have no skills to deal with complications. The beliefs and practices of the TBA conform to religious and custom requirements of the women and are socially accepted. She is calm and can be paid in cash, kind or not at all (AMREF, 2008; MOH, 2001). A study done in rural Thailand showed that 60-70% of all births are attended by TBA because women said the TBA was more friendly and inexpensive. Fifty-eight percent of Kenyan women give birth at home

because the TBA services are culturally, economically and socially acceptable and affordable; in addition, the TBA offers advice on mother and infant nutrition as well as infection prevention during pueperium (AMREF, 2008).

Many quantitative studies have been done in Kenya regarding women's choice of place of childbirth but these studies are not recent and are not specific to Garissa District. A search in the appropriate internet sites, the Kenya National Central Bureau of Statistics database, the MDG health sector specific progress report on maternal health, the Garissa District health information database did not reveal any research done on the factors influencing choice of place of child delivery among women in Garissa District suggesting a need for more research. It is important to note that the above-mentioned databases are not exhaustive. Findings from this study are informative to bridge the identified research gap. Views from women have demonstrated the cause of disparity between high ANC use and low hospital delivery. In addition, women's perceptions of the quality of hospital services they receive have been assessed.
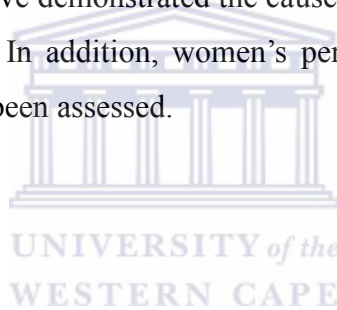
CHAPTER THREE: METHODOLOGY

3.1 Study Design

A descriptive cross-sectional survey was carried out in Garissa District. The aim was to investigate the factors that influence choice of place for child delivery among women of child-bearing age, thus a quantitative approach was used. Descriptive cross-sectional studies measure prevalence and healthcare needs such as accessibility, affordability and equity in health service delivery (Chopra et al. 2008); hence, qualitative approach was not considered. Cross-sectional studies are cheap, easy to conduct, can measure exposure and effect at the same time and in addition generate questions for further studies (Chopra et al. 2008). Findings from cross-sectional surveys produce results that can be used by service providers and planners to design services and allocate resources efficiently as well as reflect true variations between populations (Beaglehole et al. 1997).

3.2 Study Setting

The study was conducted in Garissa District in North Eastern Province of Kenya (NEP). The study area was purposively selected because as already mentioned in the introduction section above, it is located in a province with high prevalence of home delivery at 83% despite the high level of ANC attendance, high maternal mortality rate and poorly developed or totally lacking health infrastructure. The bulk of the population in this district is nomadic and has poor socio-economic characteristics with strong cultural preference for traditional birth attendant. The District has three main locations which are demarcated by existing administrative boundaries: Township location is in town and Galbet and Medina locations are peri-urban. Ninety-one percent of the population depends on agriculture (livestock and crops) which are prone to habitual droughts which cause crop failures and livestock deaths; as a result, the District has high level of poverty: absolute poverty of 73% for rural and 65% for urban population (GoK, 2007). Education enrolment for girls is 8% while that for the boys' is 11%; the average years of school are 4 years which reflect high levels of illiteracy in the District (GoK, 2007). The District has

one hospital (which also serves as a referral centre for the entire North Eastern Province), five health centers, 15 dispensaries and 16 private clinics. Majority of the private clinics are run by inadequately qualified personnel and do not offer any form of emergency obstetric care. Only the District hospital offers basic emergency obstetric care services but falls short of skilled personnel; doctor patient ratio is 1: 61,432 (MoH, 2006). The commonest causes of maternal mortality are anaemia, obstructed labor, haemorrhage, VVF and RVF (MoH, 2009). In addition, the District has poor road infrastructure which become impassable during the rainy season. The population is largely nomadic such that even those in urban and peri-urban settlements will at some point migrate with livestock in search of water and pasture (GoK, 2007).

3. 3   Study Population

The study population consisted of all women of child bearing age in Garissa District.

3.3.1 Inclusion Criteria: All women from the study population who delivered from January 2009 to December 2010 and who consented to the study.

3.3.2 Exclusion Criteria: women who are younger than 15 years of age, women who delivered more than 2 years prior to the time of data collection, nulliparous, post menopausal women and those women who declined to participate in the study were excluded from the interview.

3.4   Main Study Variables

3.4.1   Independent Variables

i) Maternal characteristics such as age, education, occupation, parity, knowledge and experience of pregnancy and birth related complications.

ii) Service-related factors such as walking distance to the health facility, cost of services and quality of hospital care women received from the hospital.

iii) Culture related factors such as preferred gender of midwife, decision-making regarding where a woman gives birth and perceived quality and availability of the traditional birth attendant.

3.4.2   Dependent Variable

Use or non-use of healthcare services for childbirth

3.5   Sample Size

Epi Info (EPI INFO 3.3.2) statistical package was used to determine the sample size for this cross-sectional study. At a confidence level of 95%, an expected frequency of home delivery at 83% (KDHS, 2009) with + 5%, a minimum sample size of 215 was obtained but when the response rate was estimated at 95%, the actual sample size became 226 using the formula;

Na = N x 100

       Re%

Where N = Minimum sample size

Re% = Response rate

Actual sample size is then 215 x 100

                                    95

= **226:** The additional sample size catered for non responses and spoiled questionnaires. The response rate for this cross-sectional study was estimated at 95% because the study did not involve sensitive questions, I was not an outsider to the community and the interview was face-to face. However, there were two non-responses hence a total of 224 women were actually interviewed.

3.6   Sampling Procedure

Stratified sampling was used. The District's three locations were selected and each location represented a stratum. The district hospital is not a stratum of its own but it is within township location which is one of the sampled strata. Township location is in town while Galbet and Medina locations are peri-urban. The exact numbers of households in each strata are not known; therefore all the households in each of the strata were included in the survey. We also feared that due to an on-going drought which makes the pastoralists to migrate with their livestock in search of water and pasture, some households may not have occupants hence attaining the sample size would be difficult. In

view of this uncertainty, households were picked consecutively and if a woman met the inclusion criteria and was found at home, she was interviewed. In a household where a woman of child-bearing age was not found, the next consecutive household was picked. In a household where the woman went to work, we fixed an appointment and interviewed her on return in the evening or in the weekend whichever was convenient for her. This procedure was repeated uniformly in Galbet & Medina strata until the stratum sample size was attained. Using this same sampling procedure, 82 women in township strata were identified at home but followed up and interviewed in the hospital ANC because they met the study inclusion criteria of having delivered within 2 years prior to the time of data collection; this allowed to strengthen the study findings as regards to objective 2. Other means of obtaining sample frames such as birth registers, immunization and pre-school records were non-existent in the entire District. Records of the hospital antenatal registers appeared unreliable; this is because hospital records are usually collected by different people at different times and are not intended for research hence are incomplete or missing. The District has a total of 33,857 women of child bearing age (GoK, 2007). To achieve the sample size per stratum, the following formula was used and the result is as shown in table 1 below:
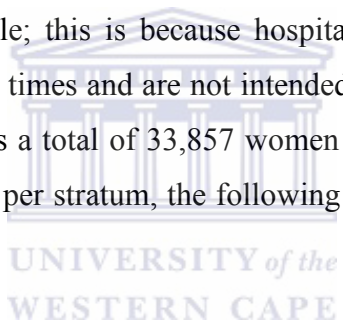
<u>Number of women of child bearing age in a stratum</u>   x 224
Total number of women of child bearing in Garissa District (33,857)
(Source: GoK, 2008)

Desired sample size = 226: Actual sample size = 224

Table 1: Actual strata   samples

Location	*Strata Number*	*Population of women of Age 15-49yrs*	*Actual number of respondents*
Township	1	12,437	82
Galbet	2	10,851	72
Medina	3	10,569	70
TOTAL		33,857	224

3.7   Data collection and processing

Data were collected by the principal researcher and two nurses from the hospital that were first recruited and then trained. Data was collected in December 2010. No translator was recruited because the researchers were conversant with the local language. Structured questionnaires were used; the questionnaires had both closed and open-ended questions. In the multiple- response and open-ended questions, participants were asked to tick all the choices provided which applied to them and add information they wished to add in the section provided for in the questionnaire labeled *Others* (*Specify*). Literate participants filled the questionnaires for themselves while the illiterate participants were assisted by the researchers in all the sections of the questionnaires. The researchers clarified possible queries from the respondents and made sure respondents answered all the questions.

Each participant was interviewed in seclusion to exclude contextual bias. Women found in their homesteads in Galbet and Madina stratums were interviewed in their houses while 82 women from township stratum were first identified in their homesteads but followed up to be interviewed in the hospital MCH-antenatal clinic. The 82 women also met the study inclusion criteria since they delivered within 2yrs prior to the time of data collection. Further, Garissa District's main MCH facility is situated in township location which is one of the sampled stratums. In addition, one of the specific objectives of the study was to find out the preference of ANC attendees of where to give birth. In view of this objective, the MCH/ANC was best suitable to net the pregnant women and find out where they intended to give birth.

Questionnaires were counted, labeled with numeric codes and arranged in order before data analysis began. The completed questionnaires were scrutinized for errors and adjustments done; typographical and spelling errors were corrected, mislabeled data were properly labeled and incomplete or missing entries were completed. Data for each stratum were stored in a separate data file and later merged. A computer was obtained and a data processing room was set up. Multiple inputs of the data and cross-checking were done to confirm consistency. A backup for all the data files was kept. Data cleaning was done with the help of a statistician.

3.8   Data Analysis

Data were analyzed using SPSS computer software package (V. 17.0). In this study, use or non-use of healthcare services for childbirth was the dependent binary variable while maternal characteristics (age, education, occupation, parity, knowledge and experience of birth and pregnancy complications), service-related factors (distance, affordability, quality of hospital services) and cultural factors (decision-making, gender preference, availability and cultural value of TBA services) were independent variables. Descriptive analysis was performed to describe the distribution and range of responses to each of the dependent and independent variables. Inferential statistics such as bivariate and multivariate/ binary logistic regression analyses were performed to determine significance of factors associated with use or non-use of healthcare services for childbirth. Results for Chi-square test were considered statistically significant at $p \leq 0.05$.

3.9   Validity and Reliability

Questionnaires were translated into the local language. The principal researcher did the initial translation into the Somali language then presented the document to peers to proof-read and check the consistency of the content. This is because a centre for translation is non-existent in the area since Garissa District is predominantly made of a homogenous Somali community; the need for such a service has never been felt. A back translation into English language was done after the peer review. Questionnaires in both English and the local language were availed and pre-tested using 20 women who met the study inclusion criteria in Mororo division in Tana River District. Mororo division is adjacent

to Garissa District and only separated from Garissa District by the Tana River Bridge hence women from this division were found to be suitable for pretesting the questionnaires because of proximity to the study area and the socio-demographic and socio-economic similarity with women from Garissa District.

The research assistants were professional nurses that belong to the study field and working in different sections in the main hospital but not specifically MCH clinic. They were trained to pick the fine details of the questionnaire and complete the work effectively. They were also trained to locate necessary documentation and details which may be obscure, hidden within text or ambiguous as well as maintain order when gathering data. In addition, the research assistants were sensitized on confidentiality.

The purpose of the piloting was to determine the feasibility of the approach, ensure the questionnaire was clear enough to potential participants and that the questions covered all the intended objectives. After the initial piloting, changes were made to the questions which were either multiple-response or open-ended; questions 1(e), 3, 4, 5, 6, 8(c), 12(b), 13(b), 17. *Indicate /give all the choices which apply to you* was added so that participants could give as many responses as they could from the choices provided and add others which may have not been in the questionnaire. A precautionary warning was also indicated at the beginning of the questionnaire to inform participants that the choice for single/separation was not included in the choices for marital status. All items on the questionnaire were discussed and understood prior to administration in order to reduce or eliminate inter-observer variability.

Double entering of the data into Epi Info computer software package was done and the same result was achieved. The women of child-bearing age who participated in the interviews had the same socio-demographic characteristics as the other women in the larger population and hence this served as external validity. A standard scale 'gold standard' of questionnaires did not exist instead the face validity of the questionnaire was examined by interviewing people face-to-face (Williams, 2003). The principal researcher and the two assistants confirmed that items in the questionnaire were understood and

measured the intended variables.   The interview of the users of care as well as the assessment of availability of maternal health services also ensured validity.

3.10   Generalisibility

The results of this study only apply to the study population because the study area was selected for convenience considering that there is difficulty in transport and communication in the outskirts of the District; in addition, there exists occasional and unpredictable banditry attacks. The population in Garissa District is generally nomadic hence the likelihood of not being able to net the study sample size in the outskirts of the District was also considered; hence the more sedentary strata were selected in the sampling procedure. The literature review was done to compare what has been done elsewhere and the findings are similar. However, the findings from this study could be relevant to the larger population of women of child-bearing age in the study area as well as other areas with similar context.

3.11   Ethical Considerations

The protocol was reviewed and approved by the University of Western Cape Research Ethics Committee; there was no such committee available to me locally. Verbal consent was obtained from the local District Director of health, the District Commissioner and the area chief. Informed consent was obtained from the respondents after courteous request and full disclosure of the nature, purpose and importance of the study (Polit et al. 1993). Nomadic, poorly educated and impoverished women are particularly vulnerable and this fact was considered during the interview. The interviewers first established a rapport with the women and ensured they were tranquil before the actual interview began. Illiterate participants were keenly assisted and each participant was interviewed in seclusion and confidentiality assured. Participants were explained that information gathered from this research can be used to improve maternal health services in the district which can eventually benefit them as individuals as well as the entire community. Participants were allowed to withdraw from the interview at any point (Polit et al. 1993). Withdrawing from the interview did not carry any penalty and those participating in the study were not paid; rather, there was no benefit/ harm for participating or

abstaining/withdrawing from the interview. The questionnaires did not bare names of participants. Data were stored in a personal cabinet and confidentially maintained throughout collection, storage and analysis stages. I currently do not work in Garissa District hence the confidentiality of the data is guaranteed and I have no conflict of interest whatsoever. In addition, the research assistants though working in the District have no conflict of interest; besides, they are not in possession of the study results and the findings.

3.12   Limitation of the Study

There may be a threat to the internal validity of this study because cross-sectional studies are prone to have selection and information bias. This is because the truthfulness of the respondents is not guaranteed; in addition, there may have been respondents' recall bias. Many of the participants were illiterate and this can limit the quality of information given to us while some women may have given limited information with the permission of their husbands. Nevertheless, the women assured us that they spoke with their consent and gave true information hence this is strength to the study. The desired sample size was 226 but there were two (2) non responses hence the actual analyzed data was 224 which is 99.1% of the desired sample size; which denote the study was a success and the results are significant. Only sedentary women were accessed hence we missed out on those who went out with livestock for pasture but in spite of this, we achieved the actual sample size and this is an accomplishment to the study. The research assistants were nurses from the hospital and this may influence expression of some participants. My study design was a cross sectional study and as with all such studies, I cannot ascribe causations to the relationships found in the current study.

CHAPTER FOUR: RESULTS

4.1 DESCRIPTIVE ANALYSIS

4.1.1   Socio-Demographic Characteristics of Study Sample

The sample consisted of 224 women who delivered between January 2009 and December 2010. The age range of the study population was 15 to 49 years but when data was collected, the respondents' age range was found to be 18 to 47 years. The mean age was 30.4 years and the median age was 29.5 years. The age of the majority (56.6%) of respondents ranged from 18 to 30 years. Only fifty-five (55) out of 224 interviewed respondents were above 35 years age category with only one respondent aged 47 years. With respect to religious affiliation, the majority (86.6%) were Muslims and 13.4% Christians. In terms of marital status, 91.5% of the respondents were married, 6.7% divorced and 1.8% widowed. Most respondents did not have any form of education (52.2%), a total of fifty-nine (26.3%) had primary and secondary level education while only twenty-nine (13.0%) had attained college and above level of education. Concerning their occupation (income) status, 143 (63.8%) were housewives, 10.7% were salaried workers and 25.5% were in business, farming or livestock. The demographic profile of the women who were interviewed is shown in Table 4.1 below.

Table 4.1: Socio-demographic characteristics of the study sample n=224

Age	No %
<25yrs	46 (20.5%)
26-30yrs	81 (36.1%)
31-35yrs	42 (18.8%)
>35yrs	55 (24.6%)
Total	**224 (100%)**

Religion	No %
Muslim	194 (86.6%)
Christian	30 (13.4%)
Total	**224 (100%)**

Marital status	No %
Married	205 (91.5%)
Divorced	15 (6.7%)
Widow	4 (1.8%)
Total	**224 (100%)**

Highest level of education	No %
None	117 (52.2%)
Primary	37 (16.5%)
Secondary	22 (9.8%)
College & above	19 (8.5%)
Islamic school	29 (13.0%)
Total	**224 (100%)**

Occupation	No %
Housewife	143 (63.8%)
Salaried worker	24 (10.7%)
Business	28 (12.5%)
Farmer/livestock	29 (13.0%)
Total	**224 (100%)**

* How the working women were netted is captured in the data collection procedure.

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4.1.2 Objective 1: Prevalence of Home and Hospital Delivery (n=224)

Seventy four, (33%) of women delivered in hospital while 150 (67%) delivered at home. The multiple views of women who preferred to give birth at home are presented in Table 4.2 below.

Table 4.2: Respondents' reasons for delivering at home (n=286)

	Frequency	*Percent*
I fear male midwives	60	21
No transport	51	18
Hospital is dirty/poor services	46	16
No one to leave house with	37	13
No money	29	10
Baby came too soon	29	10
Others	34	12
Total	286	100

*Nb: others in this table refer to rude midwives & TBA is cheap.
*there is a high number of women who said they fear male midwives. The cultural values attached to this is captured in the discussion.There are more male nurses in the hospitals than female nurses; this is due to the low education level of women in the area. Government workers posted from other regions in the country resist their postings due to the hardships in Garissa.

The survey assessed if attendance of ANC was related to selection of delivery site; a total of 156 **(**69.6%) of respondents attended ANC while 68 (30.4%) did not attend. Over forty per cent (44%) of the women who attended ANC (n=156) delivered in hospital.When asked what reasons motivated them to attend ANC, they gave the multiple responses indicated in Table 4.3 below. Similarly, those who did not attend ANC gave various multiple response reasons for not attending ANC; hospital is far 58 (79.5%), got services from TBA 11 (15%), no money to pay for services 4 (5.5%).

Table 4.3: Respondents reasons for attending ANC (n=331)

	Frequency	Percent
Acquire antenatal card	145	44
To get immunized	76	23
Know the lie position of baby	70	21
Others	40	12
Total	331	100

*Others in this table refer to; "I got problems during previous birth" and "I am aware of importance of antenatal care".

In terms of attitude of women towards hospital midwives, nearly half (41%) of the women (n=224) perceived the hospital midwives to be rude across all the health facilities they have attended based on their previous experience: 31.3% percieved them to be friendly and 27.7% said 'I don't know'. Out of the 92 (41%) women who described the hospital midwife to be rude, only 12 (13.0%) delivered in hospital and the rest at home; 70 (31.3%) described the midwives to be friendly out of which 53 (75.7%) delivered in hospital. Regarding who assisted the women during their last birth, the study showed the TBA was the most preferred assistant as shown in Table 4.4 below.

Table 4.4: Who assisted the respondent during the last birth n=224

	Frequency	Percent
TBA	134	60
Nurse	56	25
Doctor	17	7.5
Others	17	7.5
Total	224	100

*Others in this table include neighbor, friend, husband and relatives

4.1.3 Objective 2: Preferences of Antenatal Care Attendees of Place of Childbirth

Of the 82 respondents who were interviewed in the MCH/ANC clinic, 71 (86%) said they were looking forward to delivering in hospital while 12 (14%) said they would deliver at home. Since a follow-up was not done to confirm this pledge, it is not known where the women actually delivered; in addition, women who were interviewed in their homes were not asked this question since they were not in the ANC at the time of the interview.

4.1.4   Objective 3: Maternal Factors Influencing Choice of Place of Childbirth

Maternal factors such as age, marital status, religion, level of education, occupation, parity, knowledge and experience of previous obstetric complications were considered under this objective. The survey did not find women's age, marital status and religious affiliation to be significant indicators (P>0.05) in the choice of place of child delivery; delivering at home or hospital did not follow any specific pattern regarding the aforementioned independent variables.

In terms of women's level of education, 117 (52.2%) did not have any form of education and only 15 (12.8%) of these women without any form of education delivered in hospital while the rest delivered at home. A total of 107 (47.8%) of women had some form of education; primary school 37 (34.6%), secondary 22 (20.6%), college and above 19 (17.8%), Islamic school 29 (27%); Table 4.5 below shows the pattern of home/hospital delivery for the women with some form of education:

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Table 4.5: Level of education and place of delivery n=107

Level of education	Place of delivery		Total
	Hospital	**Home**	
Primary 37 (34.6%)	20 (54%)	17(46%)	37
Secondary22 (20.6%)	15 (68%)	7 (32%)	22
College & above 19 (17.8%)	15 (79%)	4 (21 %)	19
Islamic school 29 (27%)	9 (31%)	20 (69%)	29
Total 107 (100%)	60 (56%)	47 (44%)	107 (100%)

Regarding occupation (income) of respondents, the study found more housewives delivered at home than women in some form of employment. Majority, 143 (64%) of the respondents were housewives without any form of employment and only 37 (25.9%) of them delivered in hospital while the rest delivered at home. Moreover,   a total of 81 (36%) of women were in some form of employment; salary, 24 (11%); business 28 (34%); farming/livestock trade 29 (36%). Among these women in some form of occupation, 37 (45.7%) delivered in hospital. Although women in some form of employment mainly delivered in hospital, women in farming and livestock trade mainly delivered at home; the latter cited distance rather than cost as a hindrance to reaching the hospital because they migrate a lot with livestock. Table 4.6 below shows the pattern of home/delivery for women in some form of employment.

Table 4.6: Occupational status and place of delivery n=81

Occupation	Place of delivery		Total
	Hospital	**Home**	
Salary 24 (29.6%)	18 (75%)	6 (25%)	24
Business 28 (34.6%)	13 (46%)	15 (54%)	28
Farmer/ livestock trade 29 (35.8%)	6 (20.7%)	23 (79.3%)	29
Total 81 (100%)	37 (45.6%)	44 (54.3%)	81(100%)

Regarding parity and choice of place of delivery, birth order between one and three children was mostly delivered in hospital (45%), lesser use of hospital for birth was noted as birth order increased: four to six births 19 (21.6%), above 7th child 6 (22.2%).

The study assessed the level of women's knowledge and experience about obstetric complications. A total of 201 (90%) women knew about obstetric complications (bleeding, delayed labour, abnormal baby position, infection, tears and caesarean section) and 70 (35%) of these women delivered in hospital. Knowledge of risks did not translate to increased use of hospital for birth. In addition, 84 (37.5%) women reported they had experienced obstetric complications during previous births; hence, 45 (53.6%) of those who experienced previous obstetric complications delivered in hospital for fear of repeat of a similar experience. Table 4.7 below shows the multiple responses regarding complications suffered by those women who experienced previous obstetric complications.

Table 4.7: Complications experienced by respondents during previous birth n=112

Complications suffered	Frequency	Percent
Delayed labor	40	36.0
Bleeding	16	14.0
Caesarean section	15	13.0
Infection	13	12.0
Tears	11	10.0
Abnormal baby position	10	9.0
Retained placenta	7	6.0
Total	112	100

*It has not been possible to probe the participants on the indepth of complications they experienced in terms of maternal versus fetal factors because this was a cross sectional survey and not a qualitative study. As mentioned prior, majority of the respondents were illiterate and did not understand the inner details of what entailed the complications they suffered whether it was a fetal issue or maternal issue. In addition, women believe that ceaserean section (which they call operation) is an indication of only complicated labour. However, they could clearly tell about some of the more obvious complications such as bleeding, infection and retained placenta.

4.1.5   Objective 4: Health- service-related Factors Influencing the Choice of
**   Place of Childbirth**

Health service-related factors assessed in this study include access measured in terms of distance and cost. Distance was measured in terms of time taken to reach the hospital by walking one-way. Cost was assessed by asking participants if they perceived the health services charges to be expensive or affordable. Participants were also asked about their perception of the quality of care they received while in the hospital. Forty-five (20.1%) of the respondents (n=224) said the hospital was dirty and services were poor. Regarding distance, 148 (66%) of the respondents (n=224) lived at a distance less than one hour one-way walking time to reach a facility with delivery service and 59 (26%) lived within one to two hours walking time to a facility with delivery service. The perception of cost of services was about half-half; that is, 105 (47%) said delivery services were affordable while 119 (53%) said the cost was expensive; even women who had no employment did not see the cost to be expensive since the husbands paid for the hospital costs. Table 4.8 below shows the time taken by respondents to reach the nearest hospital by walking one way.
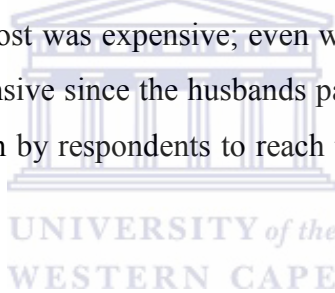
Table 4.8: Time taken by respondents to reach the hospital by walking one way (n=224)

	Frequency	Percent
Less than 1hr	148	66.0
1-2hrs	59	26.0
More than 2hrs	17	8.0
Total	224	100

*More sedentary strata were selected for the study and the justification for this mode of sampling is explained in the sampling procedure section.

4.1.6   Objectiv 5: Cultural Factors Influencing Choice of Place of Childbirth
Cultural factors assessed under this objective include: decision-making regarding where to give birth, which gender of midwife is prefered to assist during childbirth and the percieved qualities that make the traditional birth attendant important in this community.

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Analysis of the data revealed that 201 (90%) of the women preffered to be assisted by a female midwive while 23 (10%) said they did not mind any gender. In addition, nearly all the women who delivered at home prefered the tradtional birth attendant to assist them during birth because of the challenges in accessing health facilities due to transport and cost hence the TBA is the only available option. The majortity of the women could make an independent decision regarding where to give birth; Tables 4.9 and 4.10 below show the results of the analysis on decison making and the multiple responses regarding the perceived quality of the TBA .

Table 4.9: Who decides where respondent gives birth n=224

	Frequency	Percent
Myself	133	59.3
Husband	45	20.1
Me and husband	40	17.9
Mother in-law	6	2.7
Total	224	100
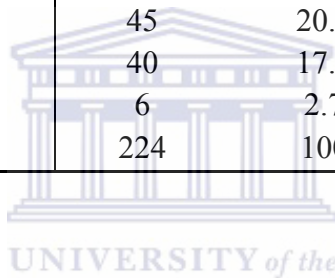
Table.4.10: Qualities that make the TBA important in the community n=421

	Frequency	**Percent**
TBA is always available	164	39.0
TBA is cheap	136	32.3
TBA can assist women for free	41	9.7
TBA is friendlier than hospital midwives	80	19.0
Total	421	100

4.2 BIVARIATE ANALYSIS

Bivariate analysis was performed to find out if the frequencies reported in the above-mentioned descriptive analysis section were statistically significant. In particular, analysis was run for the following variables in line with the study objectives using $P \leq 0.05$ to be statistically significant:

i) Socio-demographic correlates for choice of place of childbirth

ii) Maternal factors (obstetric correlates, attitude towards midwives) correlate for choice of place of childbirth

iii) Health service –related factors correlates for choice of place of childbirth

iv) Cultural factors correlate for choice of place of childbirth

4.2.1   Socio-Demographic Correlates for Choice of Place of Childbirth

In terms of socio-demographic characteristics, the study did not find a relationship between age of the respondents and place of delivery; the statistical test is not significant; p=0.208. Similarly, no relationship was noted between marital status of respondents and place of delivery; p= 0.172.   However, education and occupation were positively associated with delivering in hospital (p=0.000); Table 4.11 below shows the socio-demographic correlates for place of delivery.

Table 4.11: Socio-demographic correlates for choice of place of childbirth (n=224)

Independent variables	Dependent variable: Place of delivery		Statistical test
	Hospital (n=74)	Home (n=150)	
Mother's age group (years)			
<25 years	45.7 % (21)	54.3 % (25)	X²= 4.546: 3df: P>0.05 (0.208)
25-30 years	32.1 % (26)	67.9% (55)	
31-35 years	28.6 % (12)	71.4% (30)	
>35 years	27.3 % (15)	72.7% (40)	
Marital status			
Married	32.7 % (67)	67.3 % (138)	X²= 0.136; 1df; P>0.05 (0.172)
Others (widow and divorced)	36.8 % (7)	63.2% (12)	
Highest level of education			
None	12.8% (15)	87.2% (102)	
Primary	54.1% (20)	45.9% (17)	X²=59.442; 4df; P<0.05 (0.000)
Secondary	68.2% (15)	31.8% (7)	
College and above	78.9% (15)	21.1% (4)	
Islamic school	31.0% (9)	69.0% (20)	
Occupation of respondents			
Housewife	25.9% (37)	74.1% (106)	
Salaried worker	75.0% (18)	25.0% (6)	X²=26.689; 3df; P<0.05(0.000)
Business	46.4% (13)	53.6% (15)	
Farmer/livestock	20.7% (6)	79.3% (23)	

4.2.2 Objective 3: Maternal Factors Correlates for Choice of Place of Childbirth

Regarding maternal factors, parity (p=0.001), knowledge of obstetric complications (p=0.040), experience of previous obstetric complications (p=0.000), attending ANC (p=0.000) and perceiving the midwife to be friendly (p=0.000) were positively associated with delivering in hospital; Table 4.12 below shows the results of the obstetric correlates.

Table 4.12: Obstetric correlates for choice of place of childbirth (n=224)

Independent variable	Dependent variable: place of delivery		Statistical test
	Hospital (n=74)	**Home** (n=150)	
Number of children			
1-3	45% (49)	55.0% (60)	X²=13.637; 2df;
4-6	21.6% (19)	78.4% (69)	P<0.05(0.001)
7 +	22.2% (6)	77.8% (21)	
Knowledge of pregnancy/ birth complications			
	35 % (70)	65% (131)	X²=4.206; 1df;
Yes	17.4% (4)	82.6% (19)	P<0.05(0.040)
No			
Experience of previous birth/pregnancy complication			X²=24.906; 1df;
	53.6% (45)	46.4% (39)	P <0.05(0.000)
Yes	20.7% (29)	79.3% (111)	
No			
Attendance of antenatal care			
Yes	44.2 %(69)	55.8 %(87)	X²=31.160; 1df;
No	7.4 %(5)	92.6 %(63)	P <0.05(0.000)
Respondents perception of hospital midwives			
		84.2% (79)	
Rude	15.8% (13)	24.3% (17)	X²=84.985; 2df;
Friendly	75.7% (53)	87.1% (54)	P<0.05(0.000)
I don't know	12.9% (8)		

4.2.3 Objective 4: Health- Service-related Factors Correlates for Choice of Place of Childbirth

Health Service-related factors assessed in this objective include: access, cost and quality of hospital care. Access in this study was measured in terms of distance and cost. Distance was assessed by time taken by walking one-way to the nearest health facility. The cost was assessed by perception of the participants; that is, if they termed the cost of delivery and other service charges to be affordable or expensive. Proximity to the hospital

and perceiving the cost of delivery and other charges to be affordable were positively associated with hospital delivery (p=0.000) while poor quality of hospital care was significantly associated with delivering at home (p= 0.000); Table 4.13 below shows this result.

Table.4.13: Service-Related Factors Correlates for Choice of Place of Childbirth (n=224)

Independent variables	Dependent variable: Place of delivery		Statistical test
	Hospital (n=74)	**Home (N=150)**	
Time taken by respondents to reach hospital by walking			
Less than 1hr	41% (61)	59% (87)	X²=60.268; 3df; P<0.05(0.000)
1-2hrs	11.9% (7)	88.1% (52)	
More than 2hrs	35.3% (6)	64.7% (11)	
Respondents' perception of cost of health services			
Affordable	53.3% (56)	46.7% (49)	X²=36.809; 1df; P<0.05(0.000)
Expensive	15.1% (18)	84.9% (101)	
Quality of hospital care			
Hospital is dirty and services poor			
Yes	2.2 %(1)	97.8 %(44)	X²= 24.169; 1df; P<0.05 (0.000)
No	40.8 %(73)	59.2 %(106)	

4.2.4 Objective 5: Cultural factors Correlates for the Choice of Place of Childbirth n=224

Preference for female midwife was significantly associated with delivering at home (p=0.000). In addition, making self-decisions (p=0.000) and cheap traditional birth attendant (p=0.019) were positively associated with delivering at home as shown in Table

4.14 below.

Table 4.14: Cultural Factors Correlates For Choice of Place of Childbirth (n=224)

	Dependent variable: Place of delivery		Statistical
	Hospital (n=74)	**Home (n=150)**	**test**
Preferred gender of midwife during delivery			$X^2=33.687$; 1df; P<0.05(0.000)
Female	26.9 %(54)	73.1 %(147)	
I don't mind any	87.0 %(20)	13.0 %(3)	
Decision-making; who decides where respondent gives birth			$X^2=38.174$; 3df; P<0.05(0.000)
Myself	17.3 %(23)	82.7 %(110)	
Husband and myself	57.3 %(23)	42.5 %(17)	
Husband only	57.8 %(26)	42.2 %(19)	
Mother in-law	33.3 %(2)	66.7 %(4)	
Availability and cultural value of TBA			
TBA is always available			$X^2=1.503$; 1df; P>0.05(0.220)
Yes	35.4 %(58)	64.6 %(106)	
No	26.7 %(16)	73.3 %(44)	
TBA is cheap			$X^2=5.512$; 1df; P<0.05(0.019)
Yes	39.0 %(53)	61.0 %(83)	
No	23.9 %((21)	76.1 %(67)	
TBA can assist women for free			$X^2=7.501$; 1df; P<0.05(0.006)
Yes	51.2 %(21)	48.8 %(20)	
No	29.0 %(53)	71.0 %(130)	
TBA is friendly			$X^2=0.431$; 1df; P>0.05(0.508)
Yes	35.8 %(29)	64.2 %(52)	
No	31.5 %(45)	68.5 %(98)	

4.3 MUTIVARIATE ANALYSIS: Binary Logistic Regression Results

This section displays the results of binary logistic regression analyses predicting factors influencing place of child delivery using various independent variables mentioned in the section of univariate analysis. Binary logistic regression analysis using the Enter Method was employed to determine which variables could best predict determinants of hospital or home delivery. Those variables which were found to be statistically significant at the univariate level were included in the model. At α=0.05; 95% CI, the model predicted correctly 67% for home delivery and 33% for hospital delivery. Table 4.15 below shows the odds ratio results for the logistic regression.

Table 4.15: Binary logistic regression results for socio-demographic variables

Variable	Odds ratio (OR)	Confidence interval 95%
No education	8.36	4.12 – 17.17
No occupation	1.43	1.08 – 5.49
No ANC attendance	1.11	1.03 – 1.51
Experience of previous obstetric complications	1.38	1.15 – 2.12
Rude midwife	5.60	2.66 – 11.96

CHAPTER FIVE: DISCUSSION OF FINDINGS

The age range of the study population was 15-49 years but when data was collected the age range was found to be 18-47 years. Majority 57% (n=224) were within the age category of 18 – 30 years while 43% were within the age category of 31 -47 years; there was only one participant who was 47 years of age. The minimum age of the respondents was 18 years while the maximum was 47 years. The mean age was 30.4 years, median age was 29.5 years with a standard deviation of ± 6 years; it is noteworthy that the mean and median ages in this study are not far apart. The findings indicated majority of the women were in the prime fertile age period and there was high rate of early marriage denying most of them education opportunity; this finding corroborates the low level of literacy reported among women in Garissa District (USAID, 2009; MoH, 2006; MoH, 2003); studies done in six West and East African countries (Ivory Coast, Burkina Faso, Ghana, Kenya, Malawi, and Tanzania) have reported similar findings (Stephenson et al. 2006).

This survey did not find age, marital status and religious affiliation to be predictors in the choice of place of child delivery (P > 0.05) but other studies have revealed the age group below 35 years has higher utilization of health facilities for both ANC and delivery than older women and that age and marital status are significant predictors of place of childbirth (WHO, 2011; KDHS, 2009; Line, Johanne, & Chimango, 2006; Stephenson et al. 2006).

Mother's level of education is a significant determinant of place of child delivery. The study found education to be a significant predictor in hospital delivery (P< 0.05). Further analysis showed that women with no education had higher Odds (>1); OR=8.36 (95% CI; 4.12-17.17) of delivering at home than women with education. Lack of education will limit women's decision-making ability, access to employment and health service utilization; other studies have reported similar findings (WHO, 2011; Amy et al. 2010; WHO, 2009; Line, Johanne, & Chimango, 2006).

In this study, more housewives delivered at home than women in some form of employment. Higher income is a significant predictor of hospital birth given that women with some form of income delivered more in hospital (P<0.05); at multivariate level, women with no occupation had higher Odds; OR= 1.43 (95% CI; 1.08-5.49) of delivery at home than women with occupation. Low socio-economic status has been found as a predictor for home delivery in addition, research consistently shows that high cost is an important constraint to service utilization particularly for the poor (Amy et al. 2010). Other studies have additionally implicated different socio-economic factors as determinants of place of delivery. In a Nigerian study, 41% of the mothers who did not deliver in hospital explained that they could not afford the hospital bill and 31% said they had inadequate transportation possibilities (WHO, 2011; Line, Johanne, & Chimango, 2006; Rajendra, Svend & Birgitte, 2004).

An overwhelming majority (87.9%) of the respondents (n = 224) had 1 – 6 children; and only 12.1% had more than 7 children; in this study I asked about where the last child was born because I want the information from the findings to be current and the study to measure. The findings of high parity in this community is due to low acceptance of family planning and high fertility rate reported among women of child bearing age in Garissa District (KDHS, 2009; KDHS, 2003). Although the Kenya government has clear policies on reproductive health which advocate for family planning, the policies do not limit the number of births (KDHS, 2009); in addition, cultural factors which prohibit contraceptive use and inaccessible health facilities are also attributable to this finding. Women who had given birth to 1-3 children mainly delivered in hospital. Delivering at home increased with increased parity P<0.05 (women believe higher parity is less risky); other studies have reported similar findings (KDHS, 2009). Those who previously delivered in hospital were likely to use hospital for the next subsequent delivery. Similarly, women who attended antenatal clinic in their previous pregnancy mainly delivered in hospital (P< 0.05) and vice versa. This was proven at multivariate level, where women who did not attend ANC were found to have higher Odds (>1); OR= 1.11 (95% CI; 1.03-1.51) of delivery at home than women who attended ANC. The women

who attended ANC cited different reasons for attending ANC; reasons most frequently mentioned were (n=331): to acquire ANC card 44%; this group believed the antenatal card guaranteed them hospital admission during labour if complications arose (the number of ANC visits was not asked as this was not part of the objectives); check the lie position of baby 21% (hence went to the hospital to get assurance that everything was fine): this has been reported as an important determinant of ANC use in many other studies as cited later in this paragraph; to get a tetanus injection 23% (this group felt a tetanus injection will protect them from infection if they delivered at home) and I get problems during birth (5%). Population based cross sectional studies in Nigeria and rural Western Kenya have reported similar findings (Babalola & Adesegun, 2009; Van Eijk et al. 2006). There is ample evidence that lower level of education, low income and higher parity increase delivery at home (P< 0.05). Hospital facility use in the previous delivery and antenatal care use are also highly predictive of health facility use for delivery; though this may be due to confounding by service availability and other factors; the same was reported elsewhere in other studies (WHO, 2011; Sabine & Campell, 2009; Borghi et al. 2008; Rajendra, Svend & Brigitte, 2004).

Knowledge and experience of obstetric complications was found to be a significant predictor to hospital facility use for delivery in this study (P <0.05). Further analysis showed that women who previously experienced obstetric complications had higher Odds OR= 1.38 (95% CI; 1.15-2.12) of hospital delivery than women who did not experience previous obstetric complications. Obstetric complications experienced by these women include bleeding, delayed labour, tears, infection, retained placenta and Caesarean Section. All these women confirmed they delivered in hospital because they did not want to risk delivering at home in case complications recurred (p<0.05); other studies have found similar findings (WHO, 2011; UNICEF, 2008; Line, Johanne, & Chimango , 2006; Adamu et al. 2002; Banyana, 2001).

Service-related factors can have a vast influence on whether a woman would choose to deliver in a health facility or not. The parameters considered under service-related factors

in this study were; distance measured in terms of time taken to reach the nearest health facility by walking, cost of hospital services and quality of care the women received once they reached the health facility. This study found accessing health facilities is a challenge; this is attributable to the high poverty levels previously mentioned in the document and the migratory nature of this pastoralist community. Women who lived near the hospital but delivered at home 36 (24.3%) cited these reasons for delivering at home; hospital is dirty and services poor, lack of money to pay for service, fear of male midwifes and inability to make an independent decision. In addition to the aforesaid reasons, women who lived far cited lack of transport and accessible roads as hindering factors to reach the hospital; furthermore, these women counted the cost of transport as part of the cost of services and said the cost of services is expensive. Similar studies done elsewhere found that many pregnant women do not get quality and timely obstetric services because there are no services where they live, they cannot afford the services because they are too expensive or reaching them is too costly. Some women do not use services because they do not like how care is provided or because the health services are not delivering high-quality care (WHO, 2011; WHO, 2009; Josephine et al. 2008; Line, Johanne, & Chimango, 2006; Wilkinson et al. 2001).

The Somali community has cultural practices related to pregnancy and childbirth which influence health seeking behavior and selection of place of child delivery. It is against this background that this thesis assessed cultural factors such as; preference of gender of midwife, cultural value attached to the TBA, influence of decision-making at household level and attitude of women towards hospital midwives to see if these factors were related to where women gave birth. The study found preference for a female midwife is a predictor to home delivery ($p<0.05$); this finding is attributable to the community's cultural belief which prohibits male assisted deliveries to preserve women's chastity (USAID, 2009). In this study, majority of the women could make their own decisions regarding where to give birth and making self-decisions increased delivering at home ($P<0.05$); though the opposite can also be true for those who financially depend on their husbands, the assumption is that it is swift to make an individual decision than to consult.

This study did not find correlation between age and decision-making; this finding is contrary to findings of studies done in Nepal where women could not access health facilities for lack of independent decision-making (Furuta & Salway, 2006).

The study found perceiving the midwife to be friendly to be a predictor to hospital delivery and vice versa (P<0.05). This finding was corroborated by further analysis which showed women who perceived the midwife to be rude to have higher Odds; OR= 5.60 (95% CI; 2.66-11.96) of home delivery than those who perceived the midwife to be friendly. Some of the respondents declined to describe the midwives as either rude or friendly hence chose the option *I don't know*. The assumption is that this cadre of women did not want their stand on the midwives to be known for whatever reason; it is not known if this response was influenced by the presence of nurse interviewers. Home delivery will increase maternal and infant morbidity and mortality. Studies done elsewhere have reported similar findings (Line, Johanne, & Chimango 2006; Stephenson et al. 2006).

The overwhelming majority of women who delivered at home said they were assisted by TBA. Women were quick to elucidate the cultural value they attached to the traditional birth attendant; the TBA is always available, she is cheap, she can assist women for free and she is friendlier than hospital midwives in that order. This response is expected as the TBA is part of the community and probably a neighbor and a friend. The TBA also gives advice on maternal nutrition and infection prevention (AMREF, 2008). Statistical analysis was run for each of the variables used to describe the cultural value attached to the TBA: the results did not reveal significant correlates for availability/friendliness of the TBA and place of childbirth (P>0.05) however, there is a significant correlate between 'cheap TBA/ TBA can assist women for free' and delivering at home (P=0.019). Community based cross-sectional surveys done in Zimbabwe, Zambia and other studies done elsewhere have revealed similar findings (Sabine & Campell, 2009; Hazemba & Siziya, 2008; Furuta & Salway, 2006).

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusion

The results of this survey show that institutional care seeking for childbirth in Garissa District is low given that 67% women delivered at home. This outcome is influenced by lack of community access to maternal health services in terms of long distance and lack of reliable transport and inaccessible roads, low economic status, low education level, decision-making, birth order, preference for a particular gender of midwife, availability of traditional birth attendants, knowledge and experience of obstetric complications. This finding supports the view that low-income residents in Garissa District face significant obstacles in accessing healthcare; as a result, home delivery related morbidity due to anaemia, obstructed labour, obstetric fistula and haemorrhage accounts for the high number of hospital admissions in Garissa District (MoH, 2006). The findings of this study call for an urgent attention by Kenya's Ministry of Health (MoH) and local authorities to increase the number of maternity facilities in the District and advocate for increased use of the existing ones.

6.2 Recommendations

Providing Focused and Sustained Health Education

Health education programme should seek to correct common misconceptions (for example, the belief that higher parity is associated with lower risks) as well as socio-cultural barriers that hinder women's utilization of maternal health services. To ensure wider reach, health education programme should be channeled through a mix of avenues including the mass media (especially community radios, which are becoming common in rural settlements in Kenya), organizations working in the communities, community-level authorities such as chiefs, community outreach activities, posters and leaflets.

Improving the Quality of Care Accessed by Women

The second Kenya National Health Sector Strategic Plan (NHSSP-II) for the period 2005–2010 (GOK, 2005-2010) identified equitable access to care and improved quality of services as key policy objectives. The document also recognized that the public sector alone will not be able to provide the necessary services to all population groups; it valued partnerships with the private sector and communities as a vehicle to achieve the NHSSP goals (Ziraba et al. 2009). In regard to these commitments, the Kenya MoH should design and implement a two-pronged strategy of partnership with the private sector and the communities aimed at bringing quality health services closer to women in Garissa District.

First and second level maternal health facilities in Garissa District should be given technical support and supplied with drugs, equipment and emergency backup referral services to improve the quality of care. There should be continuous education programmes for hospital midwives to inculcate attitude change to overcome staff/client interaction barriers; there is also need to perform a qualitative study on the existing negative attitude between midwives and clients.

Given the government's commitment as spelt out in the NHSSP-II to involve communities in healthcare provision through the formation of community owned resource persons and village health committees, the MoH needs to explore the implementation of the community midwifery model which has been tested and found to be successful in Kenyan rural Districts. This model focuses on empowering qualified midwives (retired or unemployed) living in communities to assist women during pregnancy, childbirth, and the post-partum period in their homes, manage minor complications and facilitate prompt referral when necessary with backup referral mechanism to ensure speedy transfer to a hospital (GoK, 2005-2010).

Empowering Women and Ensuring Choices

It is a fact reported in this study, frequently observed and documented in many other studies that women's use of maternity service is greatly influenced by their education and economic status. In view of this finding, the government of Kenya in collaboration with the Kenya Ministry of Education and development partners should strive to empower women in terms of education and economy and ensure choices; the culture of early marriage which denies many women a chance to education should be tackled.

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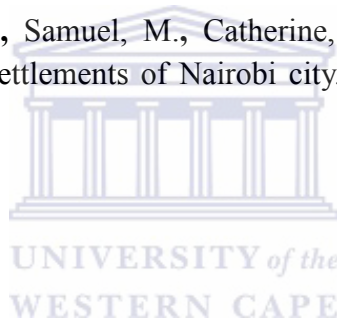
Appendix 1:   Participant Information Sheet

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21-959, Fax: 27 21-959

E-mail:

Project Title: Factors Influencing Choice of Place of Child Delivery among Women in Garissa District, North Eastern Province-Kenya

This is a research project being conducted by Mrs. Alasa Osman Hirsi in Garissa District. I am a student at the School of Public Health, University of Western Cape. As part of my studies for Master of Public Health I am required to conduct this research. I will be focusing on the factors which influence women's choice of where to give birth. I am requesting you to participate in this research project to share your experiences on what factors influenced your decisions to give birth either at home or hospital during your last delivery. North Eastern Province where Garissa District is located is known to have high prevalence of home delivery at 83% and home delivery is associated with high maternal and infant mortality; in addition, no explicit literature exists on the factors which influence the choice of place of child delivery among women in Garissa. The purpose of this study is to find out factors influencing choice of place of child delivery, the study will also assess women's knowledge on the risks associated with home delivery, the availability, accessibility and quality of maternity care they receive. The findings will help us to formulate programme that will increase hospital births in the District.

You will be requested to give written consent after the purpose and the implication of the study has been explained to you. I will ask you questions concerning your socio-

economic status, number of pregnancies, place of birth of your last child and any birth/ pregnancy complications. The individual interview may take about 30 minutes.

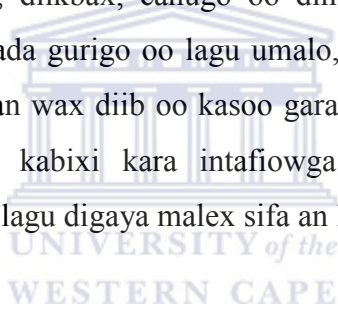**Voluntary participation and withdrawal**

There are no sensitive questions in the interview. Feel free to say anything you do not like to discuss. Please answer the questions as honestly as possible because I will keep our discussion confidential. Your name will not appear on the questionnaire. Kindly participate in the interview; however you are free not to participate or withdraw at any point and that will not affect you in any way. You will not be paid for participating in this study. However the information you will give us will help us to improve services. If we write a report or article about this research project, your identity will not be revealed as the questionnaires do not bare names of participants.
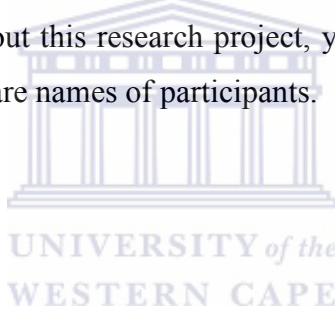
Appendix 2: Somali Language Translation of Participant Information Sheet

Project Title: Factors Influencing Choice of Place of Child Delivery among Women in Garissa District, North Eastern Province-Kenya/ Xageebay kudalan dumarka Somaliyet maxayna kuracan halka ay kudalan

Asalamu alleikum Warhamatullahi Wabarakatuhu. Aniga magacayga waxa layarihaa Alasa Osman Hirsi. Waxan ahay arday ka aqrista jamaada University of Western Cape oo kutaala South Africa. Waxan aqrisanay Degree Master oo eh Public Health. Sifa an ku helo shahadadha Masters Public Health, waa in an sameya qoralka madadha Risaja. Qararka kasoo bahana wuxu anfaaya dumarka somaaliyet oo badhana ku ummalan guriyahotha. Guriya lagu umalaya dibatoyin aya kaimadan sitha camal in ay dumarku isugoan markay umalayan, diikbax, canugo oo dinta. Waxan baariya in ay dumarka ogsoon yahinn dibka kaimada gurigo oo lagu umalo, sababta ay isbitalka ugu dalaynin. Qofka ka qebqata baritankan wax diib oo kasoo garaya maleh, wax lacag oo lasinayana malex, waqtikastana wuu kabixi kara intafiowga. Waajib maaha in add sualaha kajawabta. Magacadha mel lagu digaya malex sifa an lagugu aqoonsanin.

Voluntary participation and withdrawal

Sual laga hishoonaya ama ceb eh makutalo halkaan. Wax add donto waa weidin karata. Wixi add rabin daaf. Magacadha meel lagu qori mahayo si ay cidna kuu garanin. Fadhlan ka qeeb qadha sualaha. Marka aad donto kabax intafiowga. Wax diib oo kaa so garaya maleh. Wax lacag oo lagu sinaya maleh. Hadii la qoro qaraka Magacadha iddna magaraneso.

Do you have any question about the study?
Maka qabtaa wax sual eh arimahan?

Do you agree to be interviewed?
Maogoshahay in lagu sualo?

52

Yes/ haa

No /maya

My contact details are:/ waxaa laigala xiriirikara

Mrs. Alasa O. Hirsi

P.O. Box 14948, 00100

Nairobi-Kenya

Tel: +254 722 592 194

Signed: …Mrs Alasa Hirsi

I am accountable to my supervisor: Dr. Thubelihle Mathole who is contactable at c/o SOPH fax: 021 959 2872 0r by e-mail at tmathole@uwc.ac.za and Dr. Ehimario Igumbor, e-mail at eigumbor@uwc.ac.za.

Appendix 3: Informed Consent

UNIVERSITY OF THE WESTERN CAPE
School of Public Health

Private Bag X17 ● BELLVILLE ● 7535 ● South Africa
Tel: 021- 959 2809, Fax: 021- 959 2872

Informed Consent:

Title of the Research

Factors influencing the choice of place of child delivery among women in Garissa District, North Eastern Province- Kenya

As was mentioned in the Participants Information Sheet, your participation in this research is entirely voluntary. Refusal to participate or withdrawal from the study will not result in penalty or any loss of benefits to which you are otherwise entitled. If you choose to participate, you may stop at any time. You may also choose not to answer particular questions that are asked in the study. If there is anything that you would prefer not to discuss, please feel free to do so. The information collected in this interview will be kept strictly confidential. If you choose to participate in this study, your signed consent is required before I proceed to interview you.

I have read the information about this study on the participant information sheet, or it has been explained to me. I have had the opportunity to ask questions about it and any questions I have asked have been answered to my satisfaction.

I consent voluntarily to be a participant in this project and understand that I have the right to end the interview at any time, and to choose not to answer particular questions that are asked in the study.

My signature says that I am willing to participate in this research.

Participant name (Printed) RUKIA MOHAMED
Participant signature----RUKIA--   Consent date…6th Dec 2010

Researcher: Alasa Hirsi: signature: AHirsi   6th Dec 2010

UNIVERSITY *of the*
WESTERN CAPE

Appendix 4: Somali Translation of Informed Consent

Title of the Research/ Magaca barnamishka

Factors influencing the choice of place of child delivery among women in Garissa District, North Eastern Province- Kenya/ Xageebay kudalan dumarka Somaliyet maxayna kuracan halka ay kudalan

Sithi marhore lagu shegey, qasab maha in add ka qeb qadhata sualaha. Hadii ad kabaxtho intafiowga wax diib kama soo garaya. Wax faida ah oo kaa baqanaya maleh, wax lacag eeh oo lagu siinaya maleh. Sual add rabin haka jawabin. Waqtiga add donto ka bax intafiowga. Jawabatadha waxa laga digaya qarsoni. Hadii ad ogolata in add suala ka qebqadhata , ogolashadha oo qoral ah aya laga qori ama sen ayad sareysa.

Waxa laiga fahfahiye sualaha laiweidindono iyo wixi uu barnamishka guud kuhisabsan. Waa ogolahay in laisualo sen keiga hosta ayu ku yela.

Participant name/lasualaha magaciisa (Printed) RUKIA MOHAMED

Participant signature/senka lasualaRUKIA-   Consent date 6th Dec 2010

Mrs Alasa Hirsi
Researcher/baaraha

Signature of Researcher/senka baaraha--------   Date---6th Dec 2010

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Appendix 5: Questionnaire

Questionnaire number:

HELLO participant, I am a student at the University of the Western Cape, South Africa. You are kindly requested to respond to the questions in this questionnaire truthfully. If you may desire, a copy of the questionnaire in local Somali language is available so feel free to choose between the English and Somali written questionnaires. The information contained is purely for academic purposes and it will be kept confidential. Please do not write your name on the questionnaire.

Precautionary warning:

➢ Responses for separation and single have not been provided for (in marital status), as these do not apply to this community. The cultural and religious norms of this community do not allow for single women to have babies, and prohibits a separation form of relationship. Given this scenario, it is not easy to find these cadres of women.

Socio -Demographic Data:

a) **Age in years:**

b) **Religion**

　1) Muslim
　2) Christian
　　Others (specify) --

c) **Marital status:**

　1) Married
　2) Divorced
　3) Widow
　4) Others

d) **Education:**

Q1)　What is the highest level of school attained?

　i.　None
　ii.　Primary
　iii.　Secondary
　iv.　College and above

v. Islamic school

e) Occupation

1) Housewife
2) Salaried worker
3) Business
4) Farmer /Livestock
   - Others (specify) -------------------------------

Prevalence of home and hospital delivery

Q2) How many children have you given birth to?

Q3) Where did you deliver your last child two years ago?

i. In hospital
ii. At home
   - Others (specify)---

Q4) If at home, why did you choose to deliver at home? (Give all the responses that apply to you).

i. I fear male midwives
ii. No money
iii. No transport
iv. Hospital is dirty and services are poor
v. Rude nurses
vi. Baby came too soon
vii. T.B.A is cheaper & friendly
viii. No one to leave house with

   - Others (specify) ---

Q5) If in hospital, why did you choose to deliver in hospital? (Give all the responses that apply to you).

i. Hospital can handle complications better
ii. Was advised by husband
iii. I got problems during previous childbirth so I had to go to the hospital
   - Others (specify)--

Q6)   Who assisted you when you delivered your last child?

   i.   Doctor
  ii.   Nurse
 iii.   Traditional Birth Attendant
 iv.   Others (neighbor, friend, husband, relative, delivered alone)

Health -Service-related factors influencing choice of place of child delivery

Q7)   How long do you take to reach the nearest health facility by walking one -way?

   i.   Less than 30 minutes
  ii.   1-2hrs travel
 iii.   2-3hrs travel
 iv.   More than 3hrs travel

Q8a)   During your last pregnancy, did you attend antenatal clinic?   Yes /No

Q8b)   If yes why? (Give all the responses that apply to you).

   i.   To acquire antenatal card to facilitate my admission to the hospital during labor.
  ii.   I am aware of the importance of antenatal care.
 iii.   To know the lie position of my baby.
 iv.   I get problems during pregnancy.
  v.   To get immunized.
     • Others (specify)..........................

Q8c)   If no why? (Give all the responses that apply to you).

   i.   Got services from traditional birth attendant.
  ii.   Hospital is far.
 iii.   No services at the local health facility.
 iv.   No money to pay for services.
     • Others specify-----------------------------------

Q9)   Now that you are in the antenatal clinic, where would you prefer to give birth? (This question applies to only women interviewed in the MCH/ANC).

   i.   Home
  ii.   Hospital

Q10)   During your last pregnancy did you get tetanus immunization? Yes /No

Q11) What do you think of the cost of delivery services in the government hospital?

  i. Affordable
  ii. Expensive

Maternal factors influencing choice of place of child delivery

Q12a) Do you know any pregnancy and birth related complications?

  i. Yes
  ii. No

Q12b) If yes which ones? (Give all the ones you know).

  i. Bleeding

  ii. Delayed labour

  iii. Abnormal baby position

  iv. Tears

  v. Infection

  • Others (specify)----------------------------------

Q13a) Did you suffer any complications during your last delivery? Yes/No

Q13b) If yes, which ones? (Indicate all the ones you suffered).

  i. Bleeding

  ii. Delayed labor

  iii. Abnormal baby position

  iv. Tears

  v. Infection

  vi. Ceaserean section

  • Others (specify)----------------------------------

Q14) According to your opinion how friendly are the midwives in the hospital?

  i. Friendly

  ii. Rude and vulgar

  iii. I don't know

Cultural Factors

Q15)   Who decides where you go to deliver a baby?

   i.   Myself

   ii. Husband only

   iii. Myself and husband

   iv. Mother in law

Q16)   Which gender of midwife would you like to assist you when you are giving birth?

   i.   Male midwife

   ii. Female midwife

   iii. I don't mind any

Q17)   What are the qualities that make the traditional birth attendant important in your community? (Indicate all that apply to you).

   i.   The TBA is always available

   ii. She is cheap

   iii. Can assist women for free

   iv. She is friendlier than the hospital staff

   • Others specify-------------------------
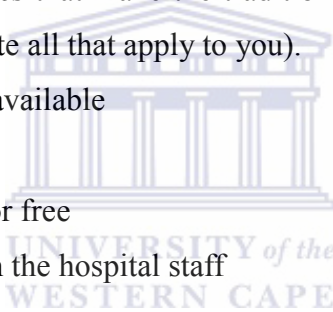
Appendix 6: Somali Language Translated Questionnaire

Sualaha Af Soomaliga

Lambarka kow

Asalamu Alleikum, waxan ahay arday ka aqrista jamaada University of Western Cape, South Africa. Waxan fadlan idhanka oddsanaya in ad sualaha kajawabtan si addalad eh. Hadii ad donta lugata af ingiriska hansha ku qoran aya jirta marka lughata ad rabto kujawab sualaha. Sualaha aniga aya mitihan kumaraya marka idd kale ma oganeso fadlan magacaga hakuqorin hanshada.

> ➢ Digniin:

Dumar an weli la gursanin iyo dumar daqmabehen lomabahno in ay ka qebqatan sualaha.

Socio Demographic Data:

a) **Emisaa sano ayat jirta**

b) **Dintatha mahaytahay**

   i.   Islam

   ii. Gal

   - Mahakale (specify) -------
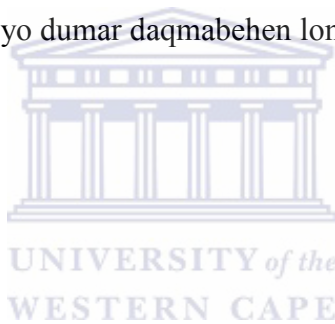
c) **Guurka**

   i.   Rer ba leyahay

   ii. Wa laifuray

   iii. Wa laiga dintay

   iv. waxkale

d) **Elmiga**

Q1)   Ila intee bad ku gartay aqris

   i.   Manuaqrisanin

ii.   Duksiga hoose

iii.   Duksiga dexe

iv.   Jama'ad

v.   Madrasa

e) **Shaqo**

   i. Gurijoog

   ii. Hafis

   iii. Beecmustur

   iv. Beroley iyo Xola daqato

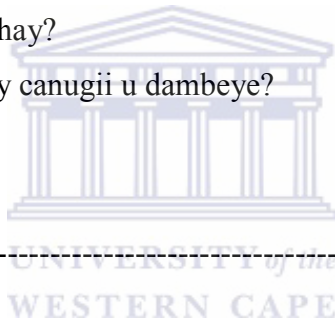   • Waxkale(specify) ---------------------

Ya badan in ciid lagu dalo iyo in ispital lagu dalo

Q2)   Emisa carur bad dashay?

Q3)   Hagee bad ku dashay canugii u dambeye?

   i. Daktar

   ii. Guri

   • Melkale (specify)--

Q4)   Maxad u dashay guriga?(Fadlan kor sababaha idal).

   i. Waxan kabaqay umalis rag ah

   ii. Lagac laan

   iii. Gari maleh

   iv. Ispitalka wa wasaq

   v. Kalkaliyaha xishmat maleh

   vi. Canuga aya daqsaday

   vii. Umalisada aya ka fiican

   viii. Kof guriga an ku daafa ayan way

   • Waxkale (specify) --

Q5)   Hadi ad ispitalka ku umashay, maxad u dashay ispitalka? (fadlan kor sababaha idal).

i.   Ispitalka aya dibatoyinka halinkara
ii. Ninkayga aya igulataliyey
iii. Umuladki hore ayan diib la kulmay marka siday awgedh
- Waxkale (specify)--------------------------------------

Q6)   Ya ka umaliyay canugii u dambeyey?
i.   Daktar
ii. Kalkaliye
iii. Umaliso
iv. Ninkayga, jiranka, sahiba, kaligey aya umalay

Sababaha lagu raco ama lagu dido in Mashrooca afimadka lagu umalo

Q7)   Waqti inte la eg bay kugu qadhata in add tagto ispitalka?

i.   Soton dakika ka yar
ii. Hal ila laba saacadod
iii. Labo ila sedax saacadod
iv. Sedax sacadod kabadhan

Q8a)   Datar hamliga matagtay market urr ad lehey?   Haa/mayo

Q8b)   Hadi ad taktay maxaa ad utaktay? (fadlan kor sababaha idal).

i.   Waxan u dontay, kar
ii. Wa garan muhimita isticmalka kiliniga
iii. Anuga jiv kiisa in an oogatha
iv. Urrka ayan ku hanunsada
v.   Talaal ayan u dontay
- Waxkale(specify).........................

Q8c)   Hadii at adhin sabab? (fadlan kor sababaha idal).

i.   Umalisa aya igacan marisa
ii.   Ispitalka aya fog
iii. Halka aan deganahay ispital maleh.
iv.   Lacag laan
- Waxkale specify----------------------------------

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Q9)   Hada waxajogta hamliga, hagee bad jaceshay in add ku umasha? (This question applies to only women interviewed in the MCH/ANC).

   i.   Guriga

  ii.   Ispitalka

Q10)   Malagu taalay marka ad tagtay kiliniga? Haa/mayo

Q11)   Sidee bad u aragtaa karaska ispitalka?

   i.   Raqis

  ii.   Qali

Dumarka waxyabaha ay kurahan melaha ay ku dalan

Q12a) Miyad garaneysan dibato layimado urka iyo umaladka?

   i.   haa

  ii.   mayo

Q12b) Hadii ad haa dirahto kuwee? (Give all the ones you know).

   i.   diigbax

  ii.   fol deratay

 iii.   anugo oo si hun uu jifo

 iv.   isugoo

  v.   isfection

  •   Waxkale (specify)-------------

Q13a) Adiga diib malakulantay markat umashay? Haa/mayo

Q13b) Hadii ad haa dirahto, kuwee? (fadlan kor wixi add la kulan oo idil).

   i.   diigbax

  ii.   fol deratay

 iii.   canugo oo si hun ujifo

 iv.   uso goo

  v.   Isfection

 vi.   kalitan

  •   Waxkale(specify)------------------
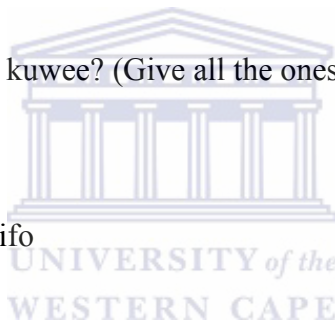
Q14)   Sidee bad u aragta kalkaliyaha ispitalka?

    i.   Dad wanagsan

    ii.   Dad xun
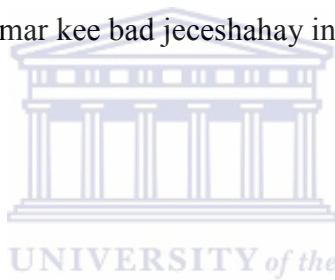
    iii.   Garan mayo

Hidaha iyo daqinka iyo dalmada dumarka

Q15)   Ya latashat market umaleyso?

    i.   Kilahey

    ii.   ninkeyga

    iii.   aniga iyo ninka

    iv.   sodahdha

Q16)   Kalkaliy rag ama dumar kee bad jeceshahay in ay kaa umaliyan?

    i.   Kalkaliya rag

    ii.   Kalkaliya dumar

    iii.   labadabo

Q17)   Isheq kimiga ay kaledahay umalisada hafadiina? (fadlan kor sababaha idal).

    i.   Wa lahela waqtikasta

    ii.   Wa beec jabantahay

    iii.   Bilash ayan ku umalisa

    iv.   Wa ka xishmat badantahay kalkaliyaha

       •   Waxkale (specify)--------------------------